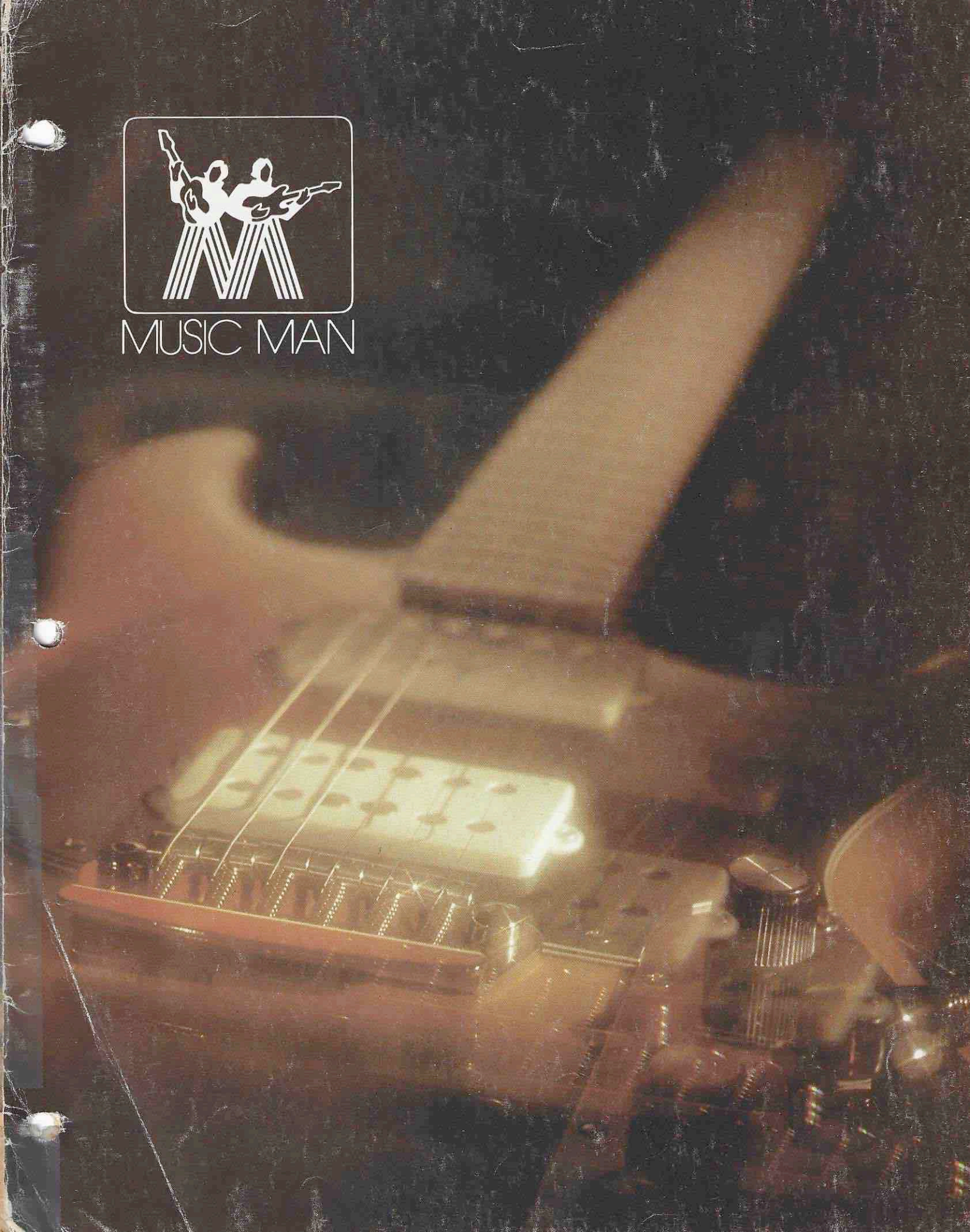




MUSIC MAN





“For the Music Man who hears the difference”

WHY MUSIC MAN?

A generation ago the world of music scarcely noticed the introduction of a revolutionary new instrument--the solid body guitar. Today, we realize that this event marked the beginning of a musical revolution, a happening of great consequence to those of us who love modern music.

The character of sound from this instrument was totally foreign to that which the guitarists of the day had become accustomed, and many were reluctant to accept the difference immediately. This led to the design of amplifiers which carefully enhanced the natural tonal characteristics of the instrument, and the result was unprecedented success. Like the chicken and the egg, it is unlikely that one could have preceded the other.

And now, a generation later, we find that these same vintage amplifiers and guitars are in great demand, often bringing prices far in excess of today's equipment. A strange circumstance, indeed, considering the modern materials and advanced technology which exists today.

So intrigued did we become with this paradox, that we were led to the formation of a new company. We named it **MUSIC MAN**. Our purpose was to recapture those sweet and subtle sounds of the 1950's and make them available to today's musician.

In the few short years since we began, two series of tube type amplifiers have been introduced; they are described in detail in this brochure. Judging from the number of recording artists, concert musicians, and plain everyday working professionals who are presently using these fine products, our efforts seem to have met with gratifying success.

We are now pleased to present our latest efforts: a unique solid body guitar and a totally new and revolutionary electric bass. Much thought and preparation have gone into the design of these new instruments; and, combined with the manufacturing expertise acquired through years of producing many of those earlier instruments, we feel that we have an exciting product in store for you.

WHY MUSIC MAN? Careful quality control, new products that stem from new ideas, a willingness to listen to music men who explain their needs and problems. That's why.



High quality tuning keys guarantee smooth, precise pitch adjustment.

Head design allows strings to pull straight across nut.

Recessed neck rod adjustment is readily adjustable with Allen screwdriver.

Reinforced head design provides additional strength at neck's weakest point.

Rock hard phenolic nut resists wear.

One piece rock maple neck has truss rod installed from rear for maximum stability and precise adjustment.

Neck tilt adjustment eliminates shims and assures any desirable action may be readily achieved.

Precision manufacturing techniques assure complete neck rod control even when guitar is strung with light gauge strings.

22 frets for extended playing range.

Dual pickups are of a special humbucking design. Four position selector switch provides both in-phase and out-of-phase connection. 12 individual 1/4" magnets improve tonal response to accommodate light gauge strings.

Bridge adjustment screws are recessed and do not interfere with picking or muting.

Stainless steel bridge sections prevent rust and corrosion throughout life of instrument.

OPTIONAL STATE OF THE ART INTERNAL PREAMPLIFIER OFFERS FOLLOWING ADVANTAGES:

- Low impedance output prevents loss of upper harmonics due to cord capacitance.
- Tone does not change when volume control is operated at reduced settings.
- Increased output level for better sustain.
- Long battery life with gradual rundown — 1 to 3 years. (Not necessary to switch off amplifier.)

Solid heavy duty bridge assembly mounted in brass inserts. Improves tone and increases sustain.

Compact head design reduces weight and improves balance of instrument.

Recessed neck rod adjustment is readily accessible with Allen screwdriver.

Rock hard phenolic nut resists wear.

Instrument accomodates broad range of string gauging because of newly designed pickup system.

Improved strap button design provides deep recess and square shoulder to prevent enlargement of strap hole.

21st fret allows instrument to be played up to and including E.

Specially designed pickup has 3/8" magnets for totally new bass sound.

Individually adjustable mutes for precise string damping.

Stainless steel bridge sections prevent rust and corrosion throughout life of instrument.

3 & 1 head design permits strings to pull straight across nut rather than fanning out against sides of nut grooves. (patents pending.)

Reinforced head design provides additional strength at neck's weakest point.

One piece rock maple neck has truss rod installed from rear for maximum stability and precise adjustment.

Scientific design virtually eliminates problems of dead spots that plague most electric basses. Smooth, even response throughout playing range.

Extra deep and wide cutaway provides easy access to 21st fret.

OPTIONAL STATE OF THE ART INTERNAL PREAMPLIFIER OFFERS FOLLOWING ADVANTAGES:

- Low impedance output prevents loss of upper harmonics due to cord capacitance.
- Tone does not change when volume control is operated at reduced settings.
- Increased output level for better sustain.
- Long battery life with gradual rundown — 1 to 3 years. (Not necessary to switch off amplifier.)

Solid, heavy duty bridge assembly mounted in brass inserts. Improves tone and increases sustain.

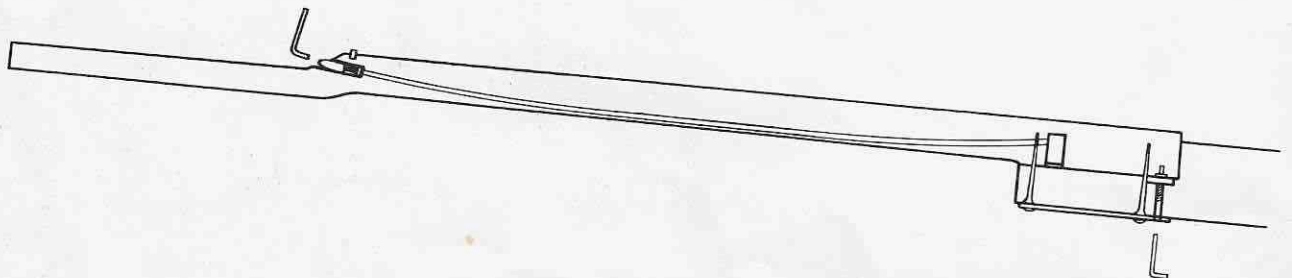
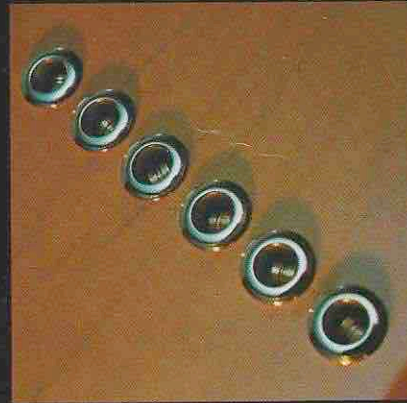
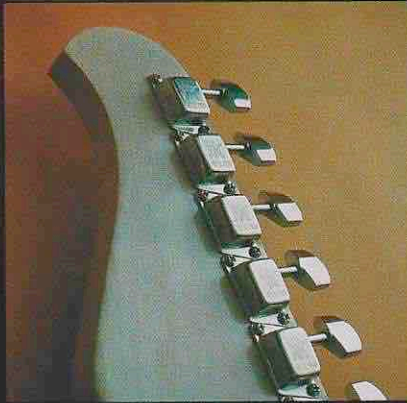


Made better to play better. Photos illustrate many refinements in design that contribute to the overall performance of both instruments.

The instrument control panel provides for separate adjustment of bass and treble tones. A four position selector switch on guitar panel provides for lead and rhythm pickup selection as well as both pickups in or out of phase. An internal micropowered pre-amplifier is optional. This preamplifier isolates the pickups from the tone control circuitry and provides a low impedance output. This allows reduced volume control settings without loss of treble and accomodates long guitar cords without loss of tone. It also greatly increases the output level for better sustain and overdrive.

String ferrules on the back of the body help eliminate vibration between bridge plate and body for increased sustain.

Drawing illustrates mounting of neck rod in neck. When rod is tightened, equal pressure is applied to any given increment of neck, assuring precise adjustment without humps and low spots. Special machines designed in our plant guarantee precision in the manufacture of each and every neck we produce.



Bridge assemblies illustrate rigid construction for increased sustain. Strings are pulled through body and force individual bridge sections firmly against base plate. Height adjustment screws are recessed into individual bridge sections so as not to interfere with playing techniques. Bridge sections are made of stainless steel to resist rust and corrosion. The entire assembly is secured to the body by two large Allen machine screws which mate with brass inserts within body. Note individual mutes on bass bridge assembly which may be adjusted by turning small thumb screws below strings (patent applied for).

Rear head photos illustrate precision machine heads which are manufactured to Music Man specifications.

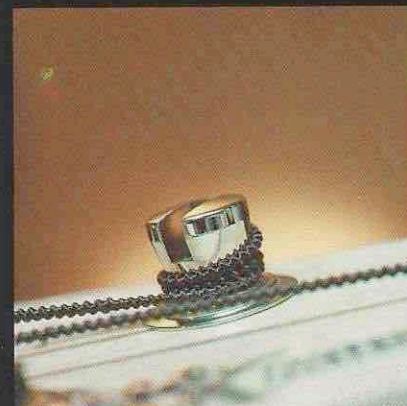
A new concept in humbucking pickups employs large magnets for improved performance.

Three spring loaded height adjustment screws allow pickups to be positioned for balanced string response. Pickups are hand wound to guarantee a tightly wound coil, thus eliminating microphonic windings.

Small hole at the bottom of the neck mounting plate provides access to neck tilt adjustment. Neck shims are eliminated and the precise angle adjustment guarantees close string action without fret buzzes.

Special tapered design of bass string post forces strings to lie flat against head (patent applied for).

Newly designed strap button has deep recess to reduce accidents. Rounded edge of button eliminates premature enlargement of strap hole.



ALL ABOUT AMPLIFIER SPECIFICATIONS;

Or, How To Make Sure You Have Your Watts Together

Comparing various manufacturers' specification sheets can be about as nebulous as explaining the difference between a flatted fifth and an augmented eleventh. The question we enjoy most is: "Why is your little 210-65 louder than my 100 watt twin 12 made by XYZ, Inc.?" Or, "Why does it seem to take 200 watts of transistor power to equal 100 watts of tube power?" The answer, obviously, lies not in how many watts the amplifier has, but in how well they are put to use.

THE SPECIFICATION SHEET

First, let's avoid the trap of applying Hi-Fidelity specifications to a guitar or bass amplifier. There are plenty of Hi-Fi amplifiers with 100, 200, and even 400 watts of virtually undistorted power available. If you have tried them, you know that they give your instrument about as much personality as an amplified ocarina. The lowest frequency of interest on an electric bass is approximately 40 Hz., and the highest on the guitar is below 7000 Hz. —which is more than adequate for the fifth harmonic of the highest note. A well-designed amplifier should have its frequency response restricted to that of the instrument it is designed to amplify, thereby eliminating undesirable inherent circuit noise, extraneous noise pickup from external sources, etc.

Another consideration for amplifiers designed for live music is their dynamic range. Home entertainment equipment deals entirely with compressed program material, e.g., pre-recorded tape, discs, broadcast material, etc. The output from a guitar pickup, however, is not compressed, and the amplifier is required to accept musical peaks which can be nearly 100 times the normal playing level. If the amplifier will not handle this extremely wide volume range, your musical expression will be restricted.

WATTS

As you know, there are several methods of rating the power output of an amplifier. All of them express this power in watts. There is music power, peak power, peak music power, and R.M.S. power. Of these various ratings, R.M.S. power ratings have come to be considered the most stringent.

Music power is a measure of the average power handling capability of the amplifier, and takes into consideration the fact that musical passages are intermittent in nature, not continuous, as would be the case of a single, steady, never-ending tone. In other words, with music power, the amplifier is expected to rest a lot.

Peak power refers to the maximum output capability of an amplifier for a *very short* period of time, generally measured in fractions of a second or even in microseconds. If you have been disappointed in very small, lightweight amplifiers which claimed several hundred watts output, chances are the manufacturer had peak watts in mind, peaks of such short duration that they were useless for music amplification.

R.M.S. power is a measure of the continuous, steady state power output capability of the amplifier. Since this is beyond the requirement of musical program material, it assures the user that it is more than able to deliver its rated power when so required. It does not necessarily mean that it will be louder than an amplifier with an equivalent range in music power. Confusing? Our advice is for you to place more credence on your ear and what you hear on the bandstand, and less importance to the numbers on the manufacturer's specification sheet.

SPEAKER SPECIFICATIONS

If the amplifier you are considering has a self-contained speaker, the ratings of that speaker have equal significance to the ratings of the amplifier. These ratings are even more difficult to put on a specification sheet. Everything said about the frequency response of the amplifier applies to that of the speaker unit. If, for example, you look for a speaker system that has horns and tweeters which guarantee response out to 15,000 or 20,000 Hz., you are going to hear a lot of hiss and undesirable noise and that's all, as far as guitars and basses go. The speaker response should be carefully tailored to that of the amplifier —something very few amplifier manufacturers do.

The power handling capability of the speaker is of utmost importance, as every working musician knows. To some degree this can be related to voice coil size and the materials used. Look for large coils using light-weight, heat-dissipating materials (aluminum preferred) as you compare specifications. But, it does not stop there. Magnet size and materials used must be compared. Everyone looks for large magnets, but this can be misleading. Certain ceramic and ferrite magnet assemblies have come into vogue because they are large and impressive in appearance. They can be recognized as large square or circular assemblies of a pancake type construction. These assemblies are unnecessarily heavy (about 3 times the weight of Alnico 5), but many of them have a more serious problem. Their magnetic efficiency is directly related to their temperature. The hotter they get, the less efficient they become. While 50 watts of power may deliver the degree of loudness required when they are cool, it may well take 100 watts to obtain the same acoustic output level when they become overheated. The next time you finish a four or five hour gig at high sound levels, put your hand on the back of one of these ceramic magnets, and you will see what we mean. On the other hand, Alnico magnets are thermally stable, light in weight, and extremely efficient. They are also somewhat more expensive, and not nearly so massive in appearance, but—you get what you pay for. Music Man amplifiers are equipped with Alnico speakers exclusively, except for speakers which are required to handle very low power where the thermal problem does not exist (410-65 with four speakers handling less than 17 watts each).

It all goes without saying, that proper speaker efficiency maximizes the benefits of amplifier output power—another reason why the ear should prevail over the spec sheet.

TUBES versus TRANSISTORS

More than a decade has elapsed since the first transistor amplifiers appeared upon the live music scene. While many of the amplifiers have earned their place on the bandstand, one fact has become increasingly apparent. They have not replaced the vacuum tube amplifiers for string instrument amplification. Vacuum tubes are inherently high voltage, low current devices. They are capable of delivering extremely high voltage peaks to a given load.

Power transistors, meanwhile, are very low voltage, high current devices. Rarely does one encounter a transistor amplifier with an output voltage much over 20 volts. Consequently, you will find such an amplifier with a rating of 200 watts R.M.S. specifying the load must be 2 ohms, a problem not present in tube amplifiers. Transistors—and more recently, integrated circuits—do have their place in modern music, however. When used in low level pre-amplifier circuitry, they are quieter, more reliable, and much more versatile. For that reason, modern recording equipment, mixing boards, tape recorders, etc., use these devices exclusively.

The Music Man design philosophy calls for the use of solid state operational amplifiers throughout the pre-amplifier circuitry. The power section, however, uses the highest voltage vacuum tubes available. This is the best of both worlds, and accounts for the spectacular acceptance of these outstanding designs. Hence, our motto: . . . "for the Music Man who hears the difference!"

PHYSICAL SPECIFICATIONS

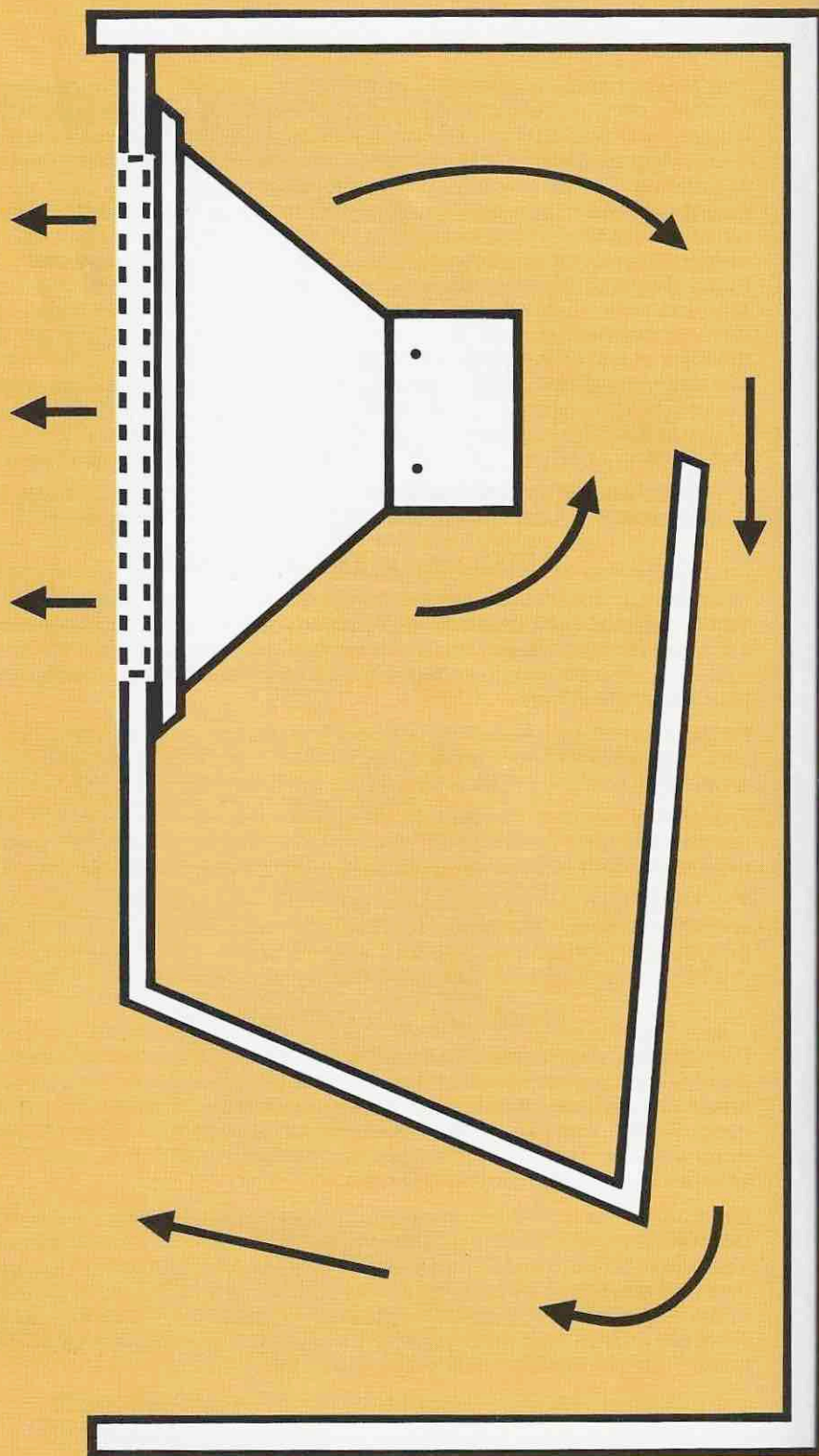
Perhaps the least mentioned specification of all is the physical construction of the amplifier. Yet, assuming that the amp performs satisfactorily, this is the one specification that protects your investment. The physical abuse to which a portable amplifier is subjected shortens the life expectancy to the point that it is of serious concern. Yet, some amplifiers have been around for 10 or 15 years and still retain a high percentage of their original value. The secret is rugged mechanical construction, ease of service, and a design concept that will weather the changing styles of music.

On other pages of this brochure you will find a detailed description of the lock-jointed cabinet construction, the marine plywood baffle boards, the extensive use of "T" nuts to mount speakers, casters and handles, etc. You will note that chassis are of welded steel construction with copper and nickel plating to protect against rust and corrosion for a life time. Any repairman will delight in the liberal use of sockets for transistors and integrated circuits, the ease of replacing controls, and the simple access to both sides of the circuit boards. All in all, it takes a lot of forethought, planning, and experience to produce a truly outstanding amplifier. We invite your comparison to any that the industry has to offer.

The Reflex Horn Speaker System is essentially a front loaded bass reflex enclosure whose port has been replaced with a folded horn. It is not to be confused with the rear loaded folded horn (W Box), which is extremely efficient in the bass register but lacks the necessary treble response to provide adequate presence and definition.

Special speaker designs utilizing aluminum voice coils have tailored the frequency response to emphasize the treble register, thus augmenting the full bodied bass response which results from the reflex horn design. This extremely wide and smooth response has found acceptance among bass players, guitarists, keyboard musicians as well as in many critical P.A. applications.

The enclosures are manufactured in two configurations, a single 15 which is rated at 65 watts R.M.S. and a twin 12 rated at 130 watts R.M.S. The units are compact, portable, and stackable. When two units are stacked vertically with the speakers positioned adjacent to each other, the front loading is additive and efficiency improves dramatically. An accessory stacking kit consisting of two large rubber feet and the necessary cables and hardware are available separately for this purpose.



115RH-65

1. 15" speaker with 2½" aluminum voice coil, 28 oz. Alnico V magnet.
2. 65 watt R.M.S. power rating.
3. Impedance: 8 ohms.
4. Lockjointed cabinet of ponderosa pine for additional strength and light weight.
5. Special handles attached with 4 No. 10 screws to prevent twisting.
6. Large oversized glides are case hardened to prevent wear.
7. Baffle board made of marine plywood.
8. Custom woven grill cloth for improved sound transparency.
9. Excellent response for bass or guitar.

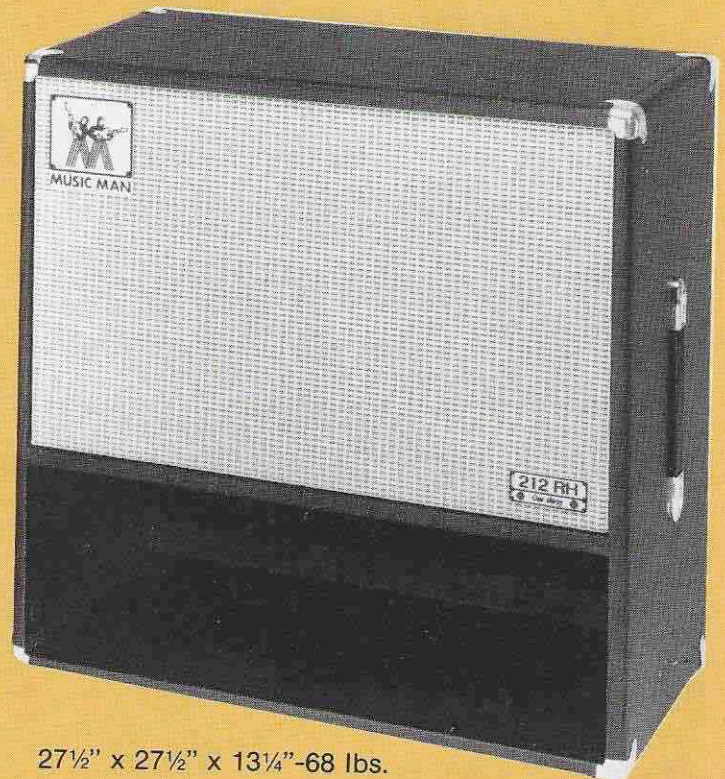


27½" x 27½" x 13¼"-58 lbs.

11

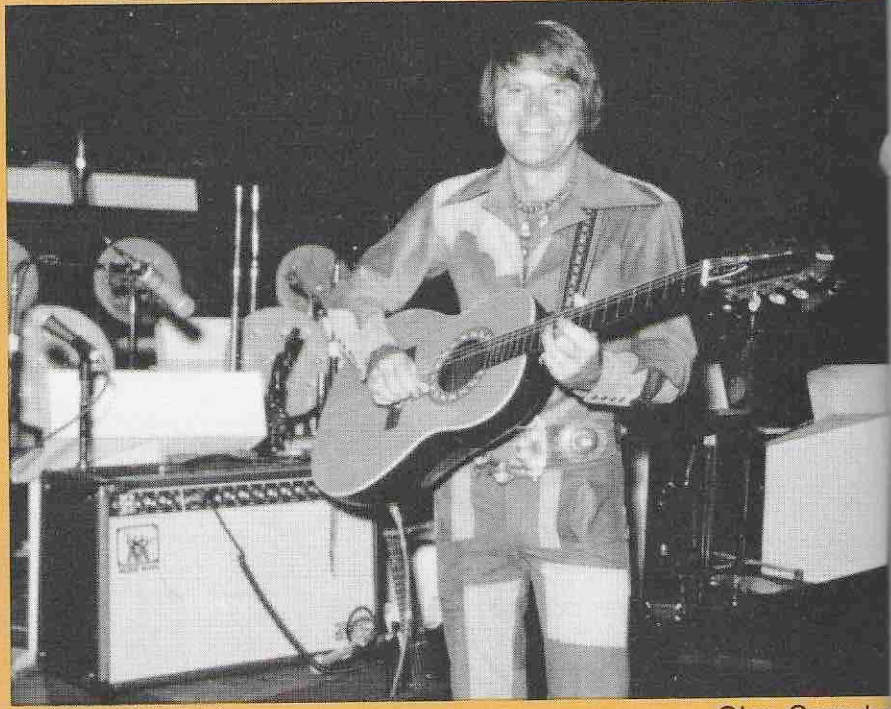
212RH-130

1. 2 - 12" speakers with 2½" aluminum voice coils, 28 oz. Alnico V magnets.
2. 130 watts R.M.S. power rating.
3. Impedance: 4 ohms.
4. Cabinet construction identical to 115 RH-65 illustrated above.
5. Excellent response for bass & guitar.
6. Single unit makes compact, high performance bass enclosure.



27½" x 27½" x 13¼"-68 lbs.

SUCCESSFUL ARTISTS are known for their critical tastes in sound. These are just a few of the many who now rely upon Music Man to fulfill their needs in amplification.

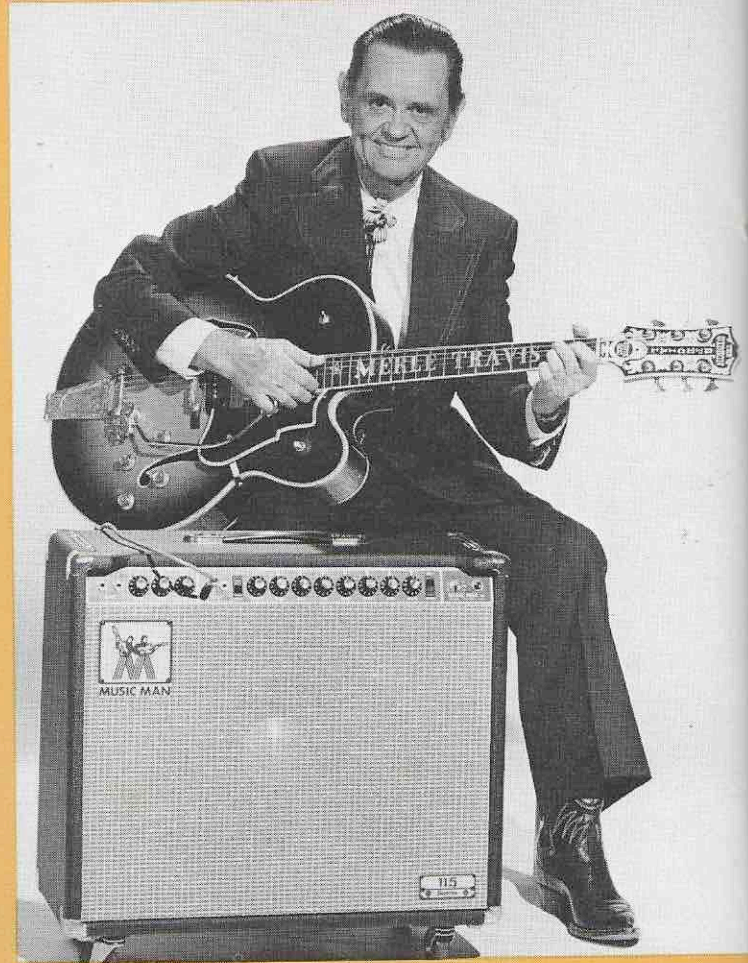


Glen Campbell

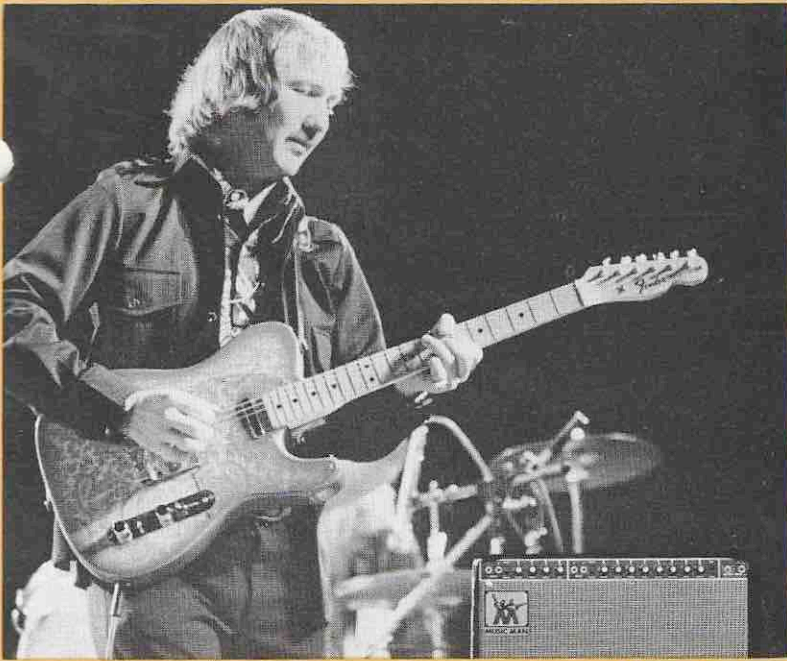
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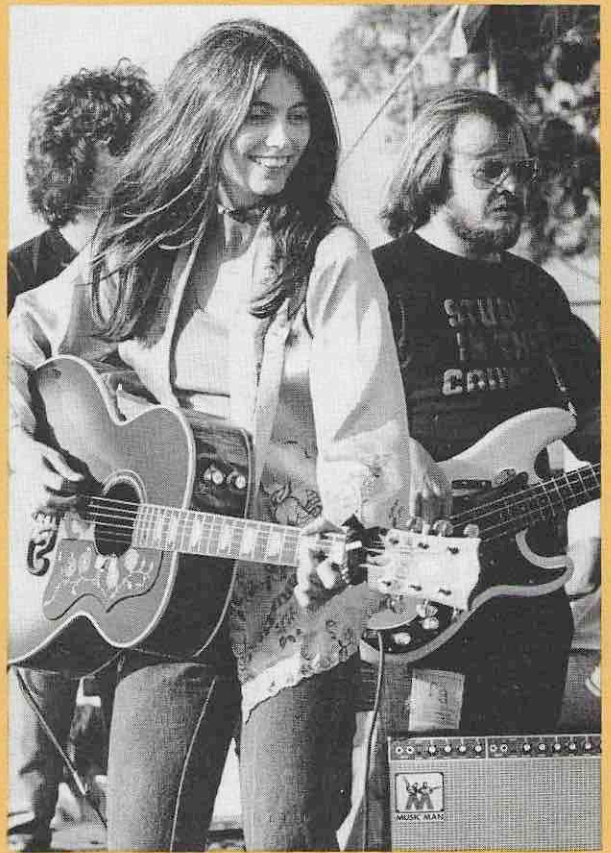
Marty Robbins



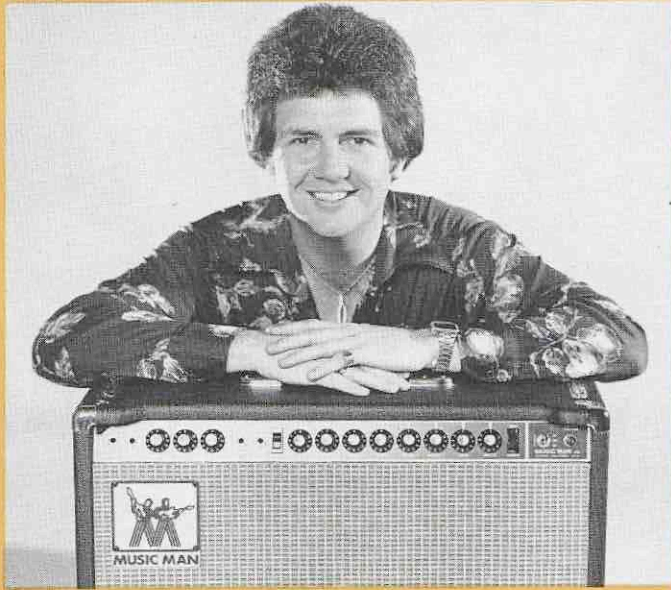
Merle Travis



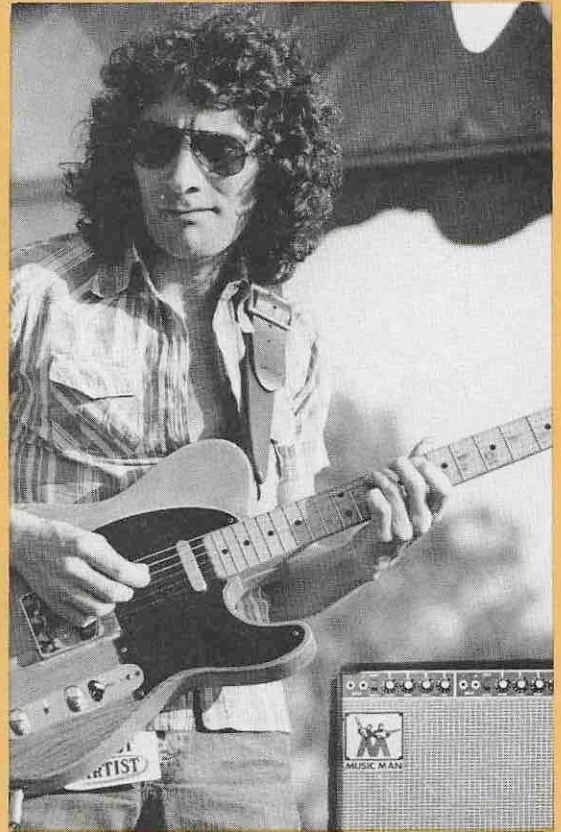
James Burton



Emmylou Harris



Tom Bresh



Albert Lee



Speedy West

SERIES SIXTY-FIVE

"The Amplifier of the Professionals"

The advent of electronic music continues to attract the attention of those professionals who set the pace in new musical trends. Electronic synthesizers, amplification and octave switching of many brass and reed instruments, a myriad of sound modification devices such as fuzzers, phasers, pitch changers, delay lines, etc., tell us every day that the era of change in modern music is not over, indeed that it may be just beginning.

No matter what your instrument, or which of the many new sounds you employ in your own personal brand of music, one thing is certain: The sound of your amplifier is the sound that your peers and your audience will hear. As a musician you appreciate the importance of a high quality instrument. As one Music Man to another, we know that you will appreciate the sound of the Series Sixty-five amplifiers. A few of the many design features include:

- An integrated circuit pre-amplifier using the most advanced computer type operational amplifiers in the tone control circuits.
- A high energy, super high voltage vacuum tube power amplifier which develops 50% more power than commonly used 6L6 types.
- A power reduction switch allows the power tubes to be driven into distortion. Ordinary amplifiers merely overload the input stages and fail to take advantage of the distortion capabilities of the power tubes. The result is a more pleasing distortion, longer sustain, and a reduction of voice coil current to prolong speaker life.
- A newly designed reverb circuit which provides additional drive at low and medium volume levels. Response is contoured to capture the sparkle and shimmer which adds life and accent to even the most delicate musical passages.
- An unusual phase reversing tremolo circuit simulates the Doppler effect of a rotating speaker. It is a moving, spaced out sound that can add new dimension to your music.
- Speaker designs have carefully optimized the magnetic energy to that of the amplifier output energy, assuring that every available watt is put to maximum use.

MODEL 65 is a two channel amplifier that is suitable for electric bass, organ, piano, and other general purpose applications. Each channel features two inputs, bright switch, volume, treble, middle, and bass controls. One channel has a low frequency turn-over point in its tone control circuitry that is particularly useful for electric bass. The amplifier also includes a deep switch and a master gain control that operate on both channels. Each channel has unusually high sensitivity that is useful in increasing distortion and sustain. Two output jacks are included and an impedance switch allows operation with either four or eight ohm loads. More than 100 watts of square wave distortion power are available, or 65 watts of R.M.S. power when operated from specified power sources.

MODEL 65 REVERB is similar to Model 65 except that the number two channel includes tremolo and reverb. A dual foot switch is included for remote control of these functions. Channel one does not include the bright switch and middle control that are found above. Electrical specifications are the same.



27½" x 27½" x 13¼"-34 lbs.

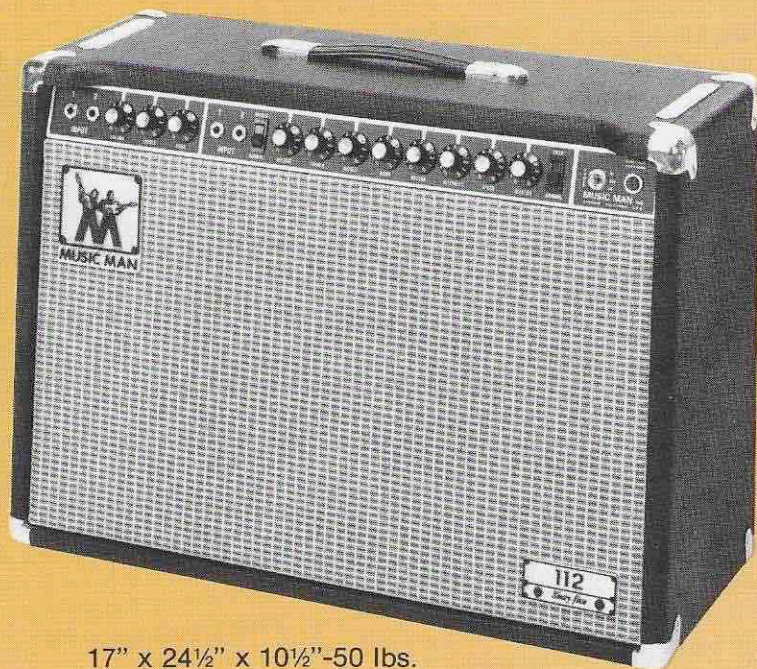


27½" x 27½" x 13¼"-40 lbs.

112-65

Model 112-65 is a two channel amplifier. Channel one has two inputs, volume, treble and bass controls. Channel two features two inputs, bright switch, volume, treble, mid-range, bass, reverb, tremolo intensity and tremolo speed controls. A deep switch, master gain control and power reduction switch operate on both channels. A dual foot switch is supplied for remote control of the reverb and tremolo functions. The amplifier also has an extension speaker jack and an impedance switch for selection of either four or eight OHM loads.

The 112-65 has a heavy-duty 12 inch speaker which uses a two inch aluminum voice coil assembly and an 18 oz. alnico magnet. The frequency response has been specifically tailored to provide the crisp clarity needed for electric guitars and is especially recommended for the studio musician.



17" x 24½" x 10½"-50 lbs.

15

115-65

The 115-65 employs the same chassis as the 112-65; all electrical specifications are identical. Both models employ two high-voltage output tubes which deliver 100 watts of square wave distortion power or 65 watts R.M.S. power when operated from the specified power source.

The 115-65 uses a special 15 inch speaker with a 2½" aluminum voice coil and a 28 oz. alnico magnet. This model is especially recommended for the jazz musician, the steel player, or anyone who prefers a full-bodied mellow sound.

Caster sockets are provided and a set of four snap-in casters are available as an accessory item.

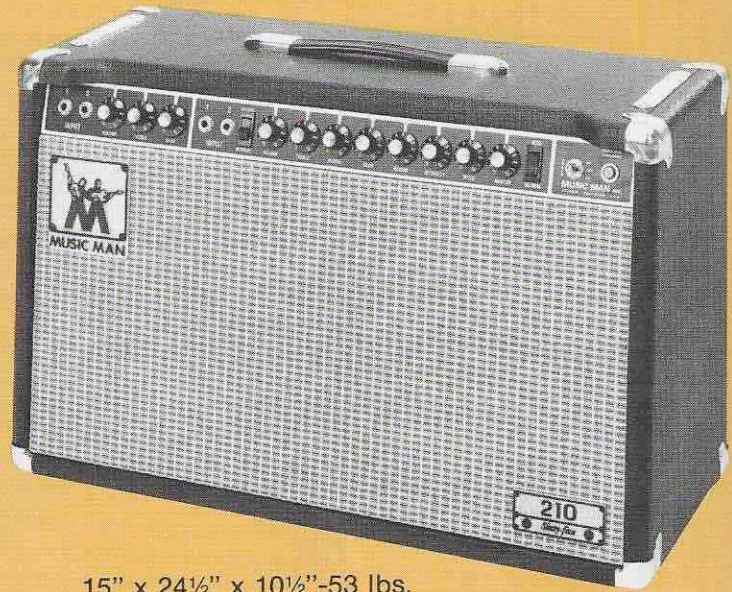


20½" x 24½" x 11"-59 lbs.

210-65

Model 210-65 is a two channel amplifier. Channel one has two inputs, volume, treble and bass controls. Channel two features two inputs, bright switch, volume, treble, mid-range, bass, reverb, tremolo intensity and tremolo speed controls. A deep switch, master gain control and power reduction switch operate on both channels. A dual foot switch is supplied for remote control of the reverb and tremolo functions. The amplifier also has an impedance switch for selection of either four or eight OHM loads.

The model 210-65 employs two heavy-duty 10" speakers with 2 inch aluminum voice coils and 18 oz. alnico magnets. So great is the magnetic efficiency of these speakers that the 210-65 can be shown to perform with many competitive amplifiers of larger and more cumbersome size. This outstanding performance combined with an extremely compact design has made the 210-65 one of our most popular models.



15" x 24½" x 10½"-53 lbs.

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410-65

For the Music Man who is willing to accept a less compact design, the **410-65** provides a refreshing new sound that is certain to enhance your music. Special 10 inch speakers have been designed to reproduce the delicate shadings of tone that are often lost where power handling ability is the prime requirement. A listening test is required to appreciate the difference.

Except for size and speaker specification, all other features are identical to the 210-65 as well as the 112-65 and the 115-65 on the preceding page.



25½" x 24½" x 11"-72 lbs.

212-65

Model 212-65 is a two channel amplifier. Channel one has two inputs, bright switch, volume, treble, mid-range and bass control. Channel two features two inputs, bright switch, volume, treble, mid-range, bass, reverb, tremolo intensity and tremolo speed controls. A deep switch, master gain control and power reduction switch operate on both channels. A dual foot switch is supplied for remote control of the reverb and tremolo functions. The amplifier also has an extension speaker jack and an impedance switch for selection of either four or eight OHM loads.

The 212-65 has two 12 inch speakers with 2" aluminum voice coils and 18 oz. alnico magnets. The additional efficiency of these speakers over commonly used ferrite types enables the 212-65 to perform favorably with higher powered twin 12 amplifiers.

Other electrical specifications are the same as those in previous series 65 models.



19½" x 26½" x 11"-60 lbs.

65 115RH-65

The **Model 65 Head** and **115RH-65** speaker illustrate an excellent combination for electric bass, organ or other keyboard applications. Detailed information is given on pages 11 and 14.



SERIES ONE-THIRTY

"For the Music Man Who Hears the Difference"

Amplifiers, like the musicians who use them, must earn their place on the bandstand. There has always been an air of mystery about what makes a really good amp, almost as if a little black magic went into its design. Experience teaches us, however, that there are two essential ingredients an amp must have if it is to make it on the bandstand:

1. It must have an acceptable sound, the type of sound that delivers your musical message the way you want it heard.
2. It must have the power it takes to get the job done, enough power to let you play up to the man next to you.

Series One-Thirty meets these requirements. Years of bandstand testing produced an amp with a character of sound so unique that it has won the approval of artists throughout the world. Through use of high-voltage, high power vacuum tubes, we were able to provide the necessary power for today's music.

It is our hope that you will arrange for your own bandstand test; we think you are in for an exciting experience.

HD-130

HD-130 is a two channel amplifier that is suitable for electric bass, organ, piano, synthesizer and other general purpose applications. Each channel features two inputs, bright switch, volume, treble, mid-range, and bass controls. One channel has a frequency turn-over point in its tone control circuitry that is particularly useful for electric bass. The amplifier also includes a deep switch and a master gain control that operate on both channels. Each channel has unusually high sensitivity that is useful in increasing distortion and sustain. Two output jacks are included, and an impedance switch allows operation with either four or eight OHM loads. More than 200 watts of square wave distortion power are available or 130 watts of R.M.S. power when operated from specified power sources.



8½" x 22¾" x 10"-38 lbs.

HD-130 REVERB

HD-130 Reverb is similar to model HD-130 except that the number two channel includes a tremolo and reverb. A dual foot switch is included for remote control of these functions. Channel one does not include the bright switch and middle control that are found above. Electrical specifications are the same.



11" x 24½" x 10"-45 lbs.

210HD-130

Model 210HD-130 is a two channel amplifier. Channel one has two inputs, volume, treble and bass controls. Channel two features two inputs, bright switch, volume, treble, mid-range, bass, reverb, tremolo intensity and tremolo speed controls. A deep switch, master gain control and power reduction switch operate on both channels. A dual foot switch is supplied for remote control of the reverb and tremolo functions. The amplifier also has an extension speaker jack and an impedance switch for selection of either four or eight OHM loads.

When it comes to high performance in small packages, the 210HD-130 sets the standard for vacuum tube amplifiers. This amplifier produces 130 watts of R.M.S. power while having a physical size approximately 1/3 less than ordinary twin 12 type amplifiers. The inherent brightness in tone of the specially designed 10 inch speakers allows the amp to deliver startling performance for the lead guitarist.



15" x 24½" x 10½"-57 lbs.

410HD-130

Model 410-HD-130 is a two channel amplifier. Channel one has two inputs, volume, treble and bass controls. Channel two features two inputs, bright switch, volume, treble, mid-range, bass, reverb, tremolo intensity and tremolo speed controls. A deep switch, master gain control and power reduction switch operate on both channels. A dual foot switch is supplied for remote control of the reverb and tremolo functions. The amplifier also has an extension speaker jack and an impedance switch for selection of either four or eight OHM loads.

The 410HD-130 is the workhorse of the Music Man amplifier line. The additional cone surface provided by the four 10 inch speakers is highly effective for steel guitar, rhythm guitar, keyboard instruments or any application where complex chord structures must be reproduced. The four speakers are able to increase the sound pressure level with less cone movement. The result is lower cone distortion and a cleaner response, especially at the lower frequencies.



25½" x 24½" x 11"-75 lbs.

212HD-130

Model 212HD-130 is a two channel amplifier. Channel one has two inputs, bright switch, volume, treble, mid-range and bass controls. Channel two features two inputs, bright switch, volume, treble, mid-range, bass, reverb, tremolo intensity and tremolo speed controls. A deep switch, master gain control and power reduction switch operate on both channels. A dual foot switch is supplied for remote control of the reverb and tremolo functions. The amplifier also has an extension speaker jack and an impedance switch for selection of either four or eight OHM loads.

The 212HD-130 is equipped with two heavy-duty 12 inch speakers with 2½ inch aluminum voice coils and 28 oz. alnico magnets. An extraordinary amount of magnetic energy is available in order to efficiently translate the amplifiers' 130 watts of R.M.S. power into maximum useable acoustic power.



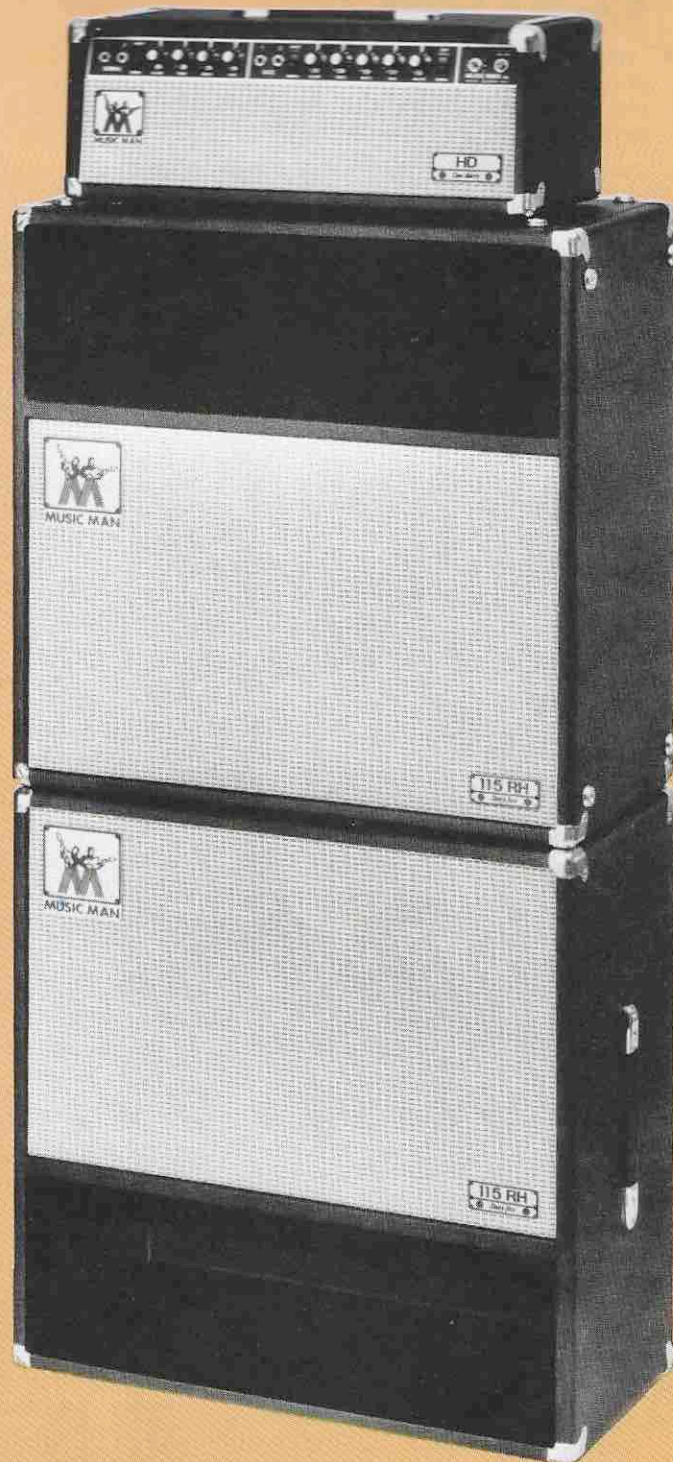
19½" x 26½" x 11"-72 lbs.

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HD-130 and 212RH-130

The **Model HD-130** and **212RH-130** speaker system has been widely accepted as a high-performance compact bass amplifier. It is also excellent for organ, piano and other keyboard applications.





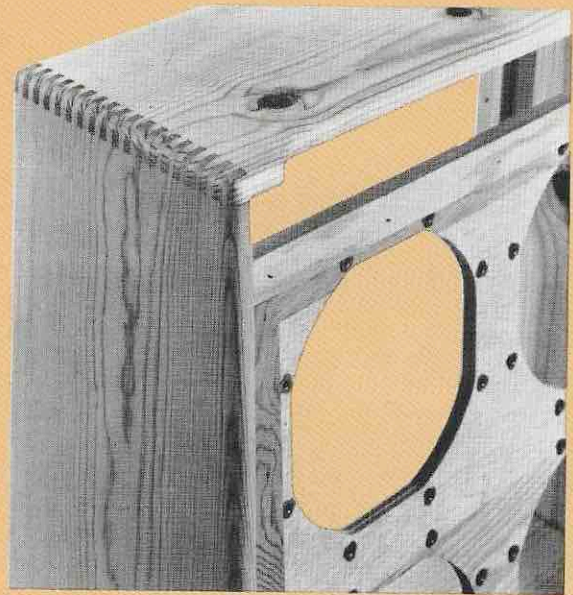
The **412-GS** speaker system employs four 12 inch speakers with 2" aluminum voice coils and 18 oz. alnico magnets. Cone suspension and frequency response have been designed specifically to compliment the electric guitar. The enclosure is a sealed system that accents the mid-range as well as the treble frequencies. The impedance of each cabinet is 8 OHM's, and the units may be used singly or stacked.

The combination shown includes an HD-130 Reverb and is recommended for lead guitar.

The **HD-130** with two **115RH-65's** stacked combine to provide a remarkably crisp and full-bodied bass sound. For the purist who wants all of the rich, vibrant resonance inherent in the bass instrument, but still desires the clean, crisp definition that lets the instrument stand apart in a group, we know of no other amp-speaker combination to equal this stack.

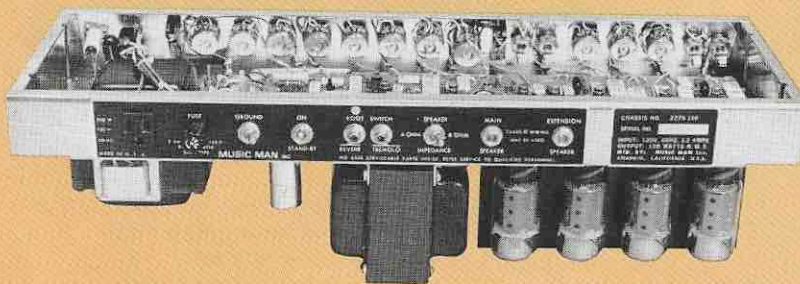
CABINET FEATURES

- Cabinet design provides for metal corner protection on all eight corners. Distinctive styling and full knob protection. Patent applied for.
- Specially designed heavy-duty handle. Secured by four No. 10 machine screws and teenuts. Won't twist or turn.
- Cabinet frame made from 3/4" Ponderosa Pine for extra strength and *light* weight.
- Lock joint construction. Four inches glueing surface for each lineal inch of corner joint. *No butt joints in the cabinet.*
- Baffle board made from void free marine plywood. *NO CHIP BOARD IS USED!*
- Speakers are mounted with No. 8 machine screws and teenuts. No dangerous studs to damage cone.
- Baffle board is surrounded by 1/4" cleat to prevent grill cloth rattles.
- Rear panels are made from 3/8" 5-ply plywood to guard against warping.
- Collar washers used under all wood screws.
- All hardware heavily plated for rust prevention.
- Amp glides are case hardened to prevent wear.
- Heavy-duty vinyl covering material with special felt backing for superior glueing surface.
- Specially woven grill cloth for additional sound transparency. *It makes a difference!*
- Electro-magnetic interference screening in top of cabinet for noise-free amplifier operation.
- Each caster socket is mounted with four machine screws and four teenuts.



CHASSIS FEATURES

- Chassis made of 18 gauge cold rolled steel.
- Die formed end bells spot welded to chassis in 22 places.
- Chassis is double plated to resist corrosion, first with copper, then with nickel.
- Special mounting brackets are used for heavy components like the output transformer.
- Controls are connected to circuit board with wire leads for easy service.
- All transistors and integrated circuits are mounted in sockets.
- Circuit boards are easily raised for access to foil.
- All wiring is high temperature (105° Centigrade).
- Transformers are made with high-grade grain oriented silicon steel laminations for extra efficiency.
- Conservative component ratings for long life.

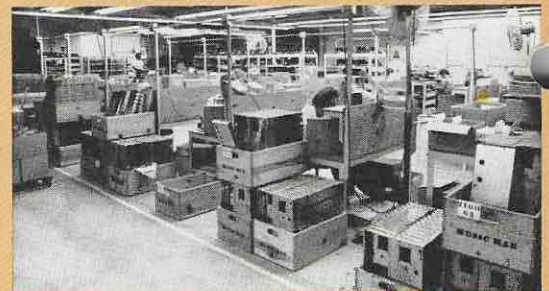
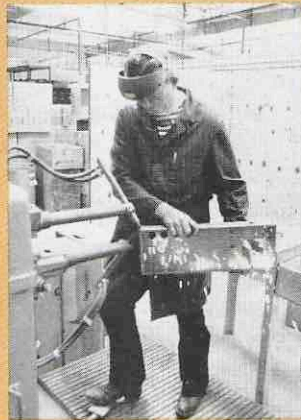
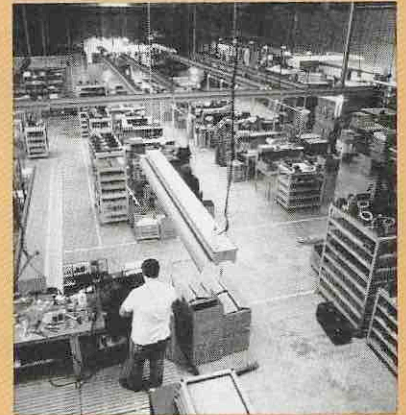
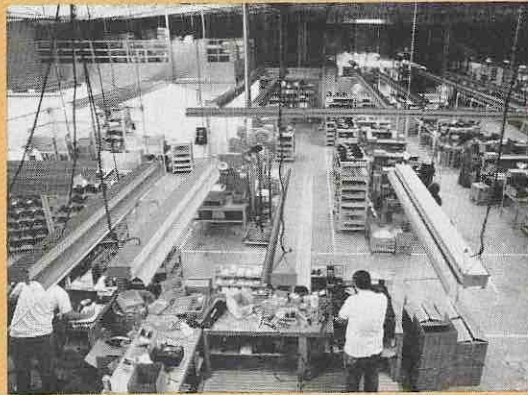


DURABILITY, RELIABILITY AND QUALITY CONTROL

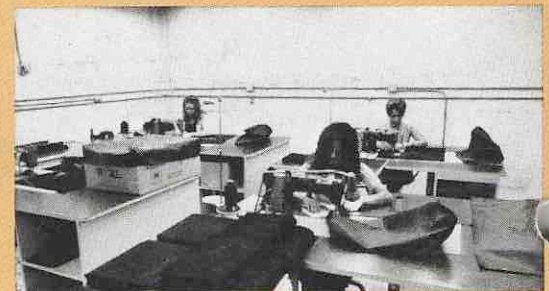
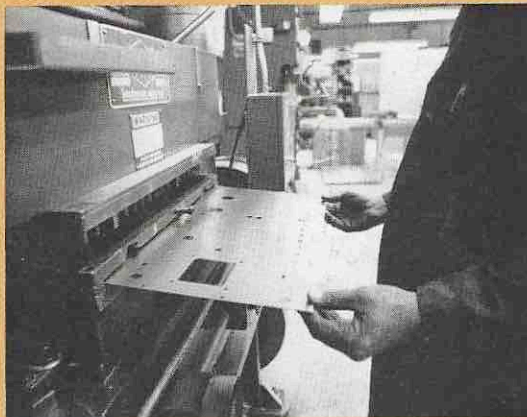
Rugged physical construction of Music Man amplifiers guarantees the durability that will protect your investment. For maximum reliability, electrical components have also been selected with great care. An amplifier should be tolerant of wide line voltage variations. Component ratings have ample reserve to accommodate a 10% voltage excursion without difficulty.

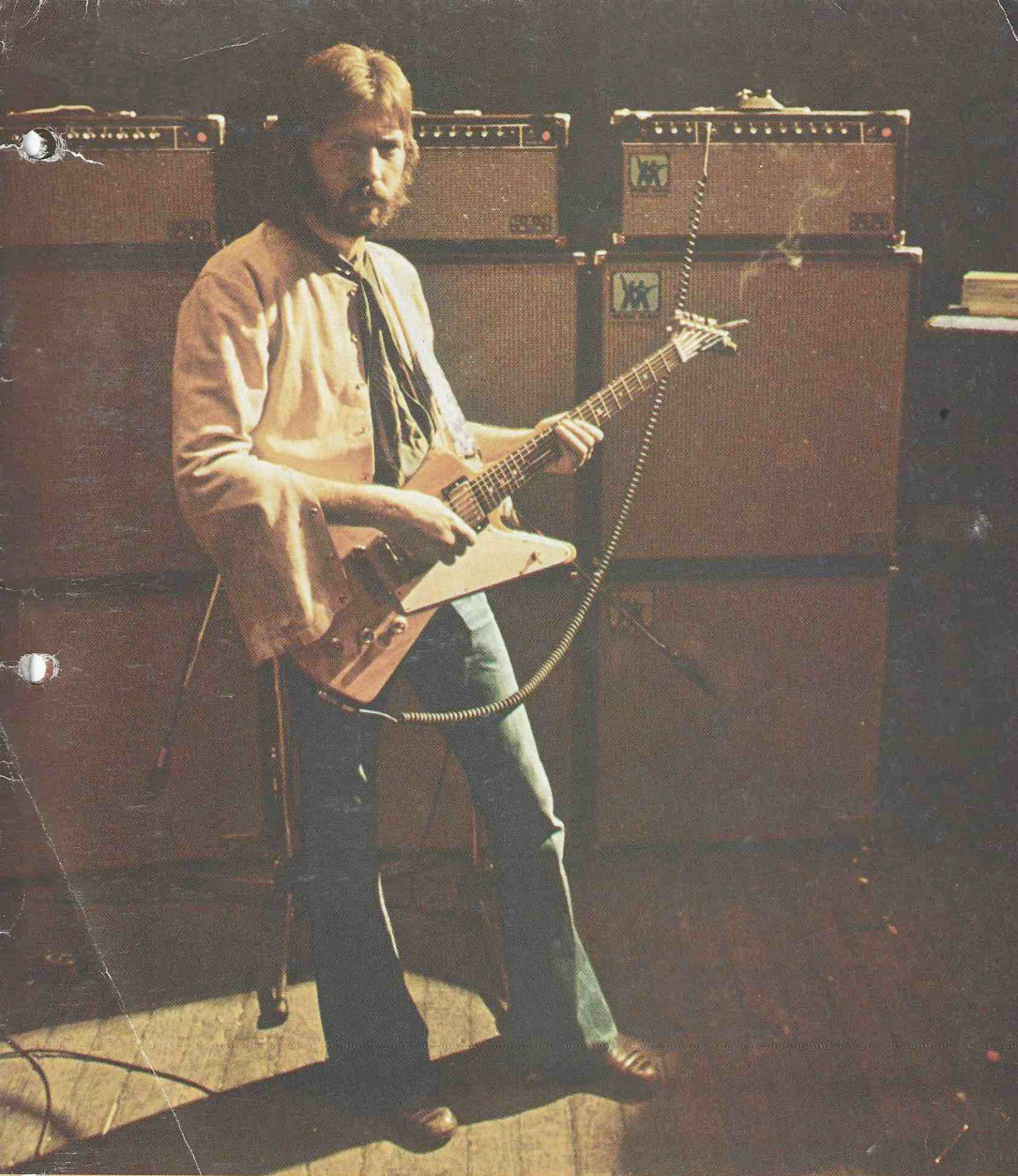
The quality control measures in effect at the Music Man factory have first priority to ensure perfection in the manufacturing process. Every speaker is individually tested before being installed in the amplifier cabinet. Each chassis is tested and necessary adjustments are made by a competent technician. After the chassis is found to be operating normally, it is placed on a special test rack. The amplifier is driven into a total overload condition for a period of two minutes. Under this condition of stress, the chassis is required to dissipate twice the power that would normally be consumed. This test is conducted automatically each four minutes for a period of four hours. It is then returned to the technician for retesting. If it is still operating normally, it is then assembled in its cabinet, and is ready for its final test which is conducted by a musician. The amplifier is thoroughly sound tested, and only after it is found to perform satisfactorily is it permitted to be boxed for shipment.

Photos illustrate complete manufacturing facilities at Music Man amplifier plant. Much of the machinery and tooling was especially designed to improve the methods of fabricating various amplifier components. All sheet metal and cabinetry is produced internally to guarantee complete quality control.



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ERIC CLAPTON in concert



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