

*Presenting the new*

**Ampex** MAGNETIC TAPE RECORDER  
TRUE-TO-LIFE FIDELITY

THE GREAT NEW UNIT THAT PUT THE CROSBY SHOW ON TAPE



*Ampex* MAGNETIC TAPE RECORDER

## THE GREAT NEW UNIT THAT PUT THE CROSBY SHOW ON TAPE

### *Here's the Crosby story:*

The Bing Crosby show is considered one of the best produced programs on the air. The half-hour you hear broadcast is selected from 40 to 60 minutes of recorded material.

When Crosby first went on the ABC network two years ago, regular "platters" were used, and in order to edit and re-arrange the material into the 30 minute program, it was necessary to dub and redub from one platter to another. This resulted in a serious loss of quality and unnecessary expense.

To solve this problem, ABC and Crosby experimented for two years with every known recording medium and technique — finally selecting the Ampex Magnetic Tape Recorder.

The ability of this instrument to maintain a unique high-level of fidelity has been fully demonstrated over the past season. Furthermore, the ease of editing the program on the Ampex machine and the fact that the tape can be used over and over again has drastically cut over-all production costs.

The Ampex Tape Recorder is truly the silent genius at every Crosby broadcast. It not only records everything that goes on in the studio, at the rehearsal, and the final performance before an audience, but also provides for instantaneous monitoring by the producer.

In the production of the program, Crosby's cast runs through the show. The producer listens to the "play-back" and immediately records improved portions where necessary. The tape is then turned over to the writers and producers for editing. The result is a perfect show — remarkably free from distortion and with a complete absence of "wow" or flutter. The speed is regulated so perfectly that even piano music is recorded without the slightest loss in quality. This is truly "true-to-life" reproduction.

Since Crosby went recorded on Ampex, other important shows such as Groucho Marx and Abbott & Costello have followed suit, and a number more are expected for the coming season.





## VARIETY REPORTS:



Fri., May 28, 1948

VARIETY

# Crosby Makes Tape Stick

## BING'S SUCCESS ENDS BEefs ON RECORDED RADIO

Bing Crosby's success in using recorded radio has ended the long-standing beefs on the subject. The method was well better than the original broadcast. Crosby's success was due to the fact that he was able to use the original broadcast tape in his studio. This method was well better than the original broadcast. Crosby's success was due to the fact that he was able to use the original broadcast tape in his studio.

### PLATTER THE STARTER

Then tape was used. At first it was transferred to platters for broadcast because engineers hadn't been satisfied by long-playing directly from tape. The method was well better than the original broadcast. Crosby's success was due to the fact that he was able to use the original broadcast tape in his studio.

which have now reached the point where they can write up the job in two hours.

### ORIGINALS ON AIR

Programs edited on the original tape is now being aired. It retains the original broadcast quality. It's as good as that in a recent demonstration for engineers from Southern California stations. A live program was recorded simultaneously on tape and the engineers weren't able to tell which was tape and which was live on the air. Crosby's success was due to the fact that he was able to use the original broadcast tape in his studio.

"Bing's success ends beefs on recorded radio"

"Programs edited on the original tape retain the original broadcast quality"

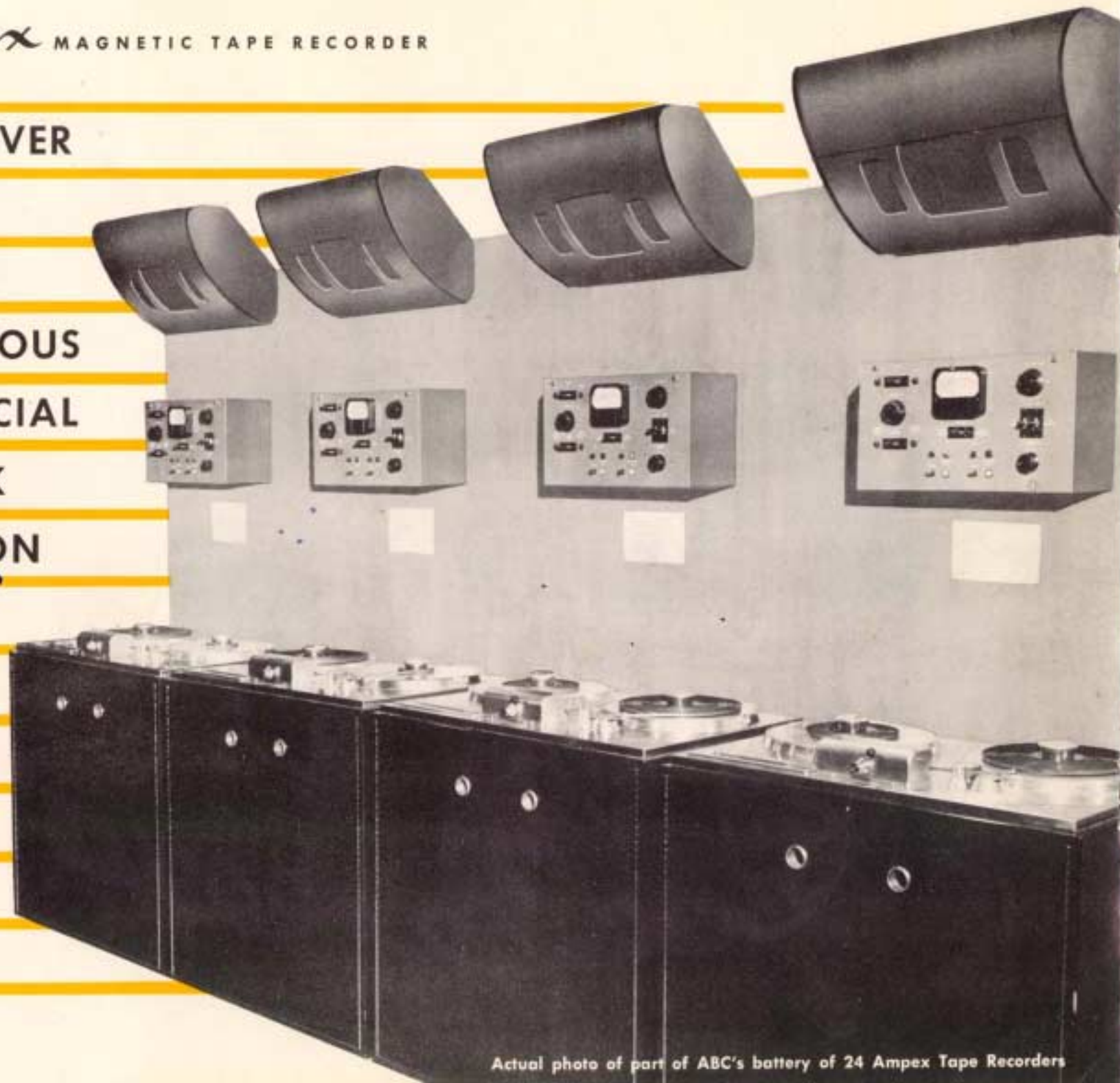
On The Air Waves



Sample of Minnesota Mining Magnetic Tape (plastic base with iron oxide coating on dull side).

*Ampex* MAGNETIC TAPE RECORDER

TESTED OVER  
MONTHS  
OF  
CONTINUOUS  
COMMERCIAL  
NETWORK  
OPERATION  
BY  
**ABC**  
18  
HOURS  
A DAY



Actual photo of part of ABC's battery of 24 Ampex Tape Recorders

## *The story of ABC's use of Ampex recorders*

The American Broadcasting Company has purchased 24 Ampex recorders to date and is using them from 15 to 18 hours a day.

ABC pioneered recorded shows for presentation on the network, and two years ago adopted a plan of recorded operation for the twenty-two weeks of daylight time in the summer. Under their daylight plan, all shows are recorded and played back from key origination points to the various time zones across the country at the same local time the shows are broadcast during the winter.

During 1946 and 1947, ABC's delayed programs were handled by disc recordings. The quality was unsatisfactory and the cost was high. Therefore, as soon as the high-quality Ampex magnetic tape recorder was developed, it was immediately adopted for the tremendous task of recording and playing back from 15 to 18 hours of programs daily on ABC. The results from the standpoint of quality and reliability have been unbelievably satisfactory and the cost of ABC's recording operation has been reduced very substantially.

To quote Variety: "Tape has in the past year completely changed not only the operation on top ABC shows but has altered the thinking of the entire industry regarding recorded programs . . . The reproduction of this Ampex machine is of such high fidelity that in a recent demonstration to engineers from Southern California stations, a live program recorded simultaneously on tape could not be identified by the engineers when the control booth switched from live pick-up to tape pick-up."



## TRUE-TO-LIFE FIDELITY

At the end of the war, the broadcasting industry was excited by the prospect of a tape recorder based on the captured patents of the German magnetic tape machines. The true-to-life fidelity machine developed by the Ampex Company is the only instrument in the world today which adds American engineering developments and "know-how" to the advancements the Germans made in this field. This instrument meets and surpasses the FCC requirements for FM broadcasting reproducing music and voice at the peak of realism.

Over-all frequency response from line input to line output is 30 to 15,000 cycles within a plus or minus 1 db. Distortion: 4% IMD (40 and 2000 cycles). Signal to noise ratio: 60 db. or better based on maximum signal level as that to produce 4% IM. Running time: 35 minutes. Rewind time: 3½ minutes (optional 1½ minutes). Tape speed: 30 inches per second. Input: 600 ohms minus 20 to plus 10 dbm. Output: 50 to 600 ohms minus 4 to plus 10 dbm.



## PAYS FOR ITSELF

The ability to use magnetic tape over and over again provides highest quality at lowest possible cost for local and regional delayed broadcasts of network programs. There is no waste of material as with discs; there are no discards; and editing a program on tape only requires a pair of scissors. Based on average operation and personnel costs, the full price of the machine will be saved in a short time.



## EASY TO OPERATE

No complicated faders to operate — no dials to watch — the entire operation of the Ampex unit is controlled by five push-buttons on the table-top panel. Buttons are transparent and lighted to show which button was last depressed. They can be operated at the machine or by remote control. A few minutes' practice and anyone will become expert in using the Ampex machine to record or play-back.



## EASY TO EDIT

Programs can be edited with unprecedented speed and accuracy. The tape is always in proper running position. Therefore, it is not necessary to check the threading each time a splice is made. Noise-free splices are made in a matter of seconds with scissors and "SCOTCH" Cellulose Tape. Due to the fast speed of the tape and the ease of handling the Ampex machine, it is actually possible to cut an "s" off the end of a word.

## EASY TO MAINTAIN

All electronic components are self-contained units of the plug-in type. They are shock mounted on a sturdy steel frame within the cabinet. Any unit can be quickly removed and replaced without disconnecting cables. Gold plated contacts in heavy connectors assure proper alignment of the plugs when chassis are inserted.

## EASY TO THREAD

No complicated loops to form . . . Merely place 35 minutes of tape on the feed spindle, attach the end of the tape to the take-up reel and drop the tape into the straight-line record-erase-playback head. Tape unwinds from left spindle, past the idler, through the heads, past the constant-speed drive capstan and automatic stop-switch to take-up reel.

When the tape has been recorded, the machine automatically shuts off and a simple push button control starts the rewind mechanism.

## SPECIFICATIONS OF *Ampex* MODEL 200-A MAGNETIC TAPE RECORDER

**FREQUENCY RESPONSE:** 30 to 15,000 cycles with in a plus or minus 1 db.

**DISTORTION:** Distortion in the overall system (from input terminals to output terminals) does not exceed 4% intermodulation distortion, using measuring frequencies of 40 and 2000 cycles with the high frequency attenuated 12 db. Total r.m.s. harmonic distortion does not exceed 1% overall for any single frequency from 100 to 6000 cycles and 2% for any frequency from 30 to 100 cycles.

**SIGNAL TO NOISE RATIO:** The noise level of the system is 60 db. below 100% modulation, 100% modulation being defined as the maximum input signal which does not exceed the distortion listed above. The noise level is that signal which exists at the output terminals of the playback amplifier when recording in the normal manner with the record input terminals terminated in a resistance equal to the rated source impedance. It therefore includes record and playback amplifier noise level, any noise caused by bias or erasing and any stray pickup in the heads. This measurement is made unweighted over a frequency range of 30 to 15,000 cycles and with a tape that has been previously modulated 100% with a 400 cycle tone.

**MONITORING:** Instantaneous monitoring made possible by separate record and playback heads and amplifiers.

**RECORD AMPLIFIER:** Will provide 100% modulation with an input signal between minus 15 d.b.m. and plus 20 d.b.m. 150 or 600 ohms input impedance. (Bridging input optional).

**PLAYBACK AMPLIFIER:** 100% modulation will give an output up to 26 d.b.m. Normally adjusted for an average output of plus 4 VU. (100% modulation gives plus 20 d.b.m.). Output impedance 150 or 600 ohms. Adjustment of both high and low frequency equalization is provided on both record and playback amplifiers by means of screwdriver adjustments. All gain controls, including erase and bias currents are also screwdriver adjustments.

**CHASSIS:** All chassis of plug-in construction.

**HEADS:** Plug-in head assembly for rapid changing of heads and to expedite head exchange service. Carefully shielded and designed for convenient and rapid threading of tape. Recording and playback gaps critically aligned allowing interchangeability of recordings without high frequency loss.

**TAPE SPEED:** 30 inches per second for normal playing, over 300 inches per second average during rewind or fast forward. (Optional 600 inches per second upon request).

**TIMING:** Accuracy of playback timing plus or minus 2 tenths of one %.

**MARKING:** A marking device incorporated over the playback head for spotting tape in editing operations.

**RECORDING TIME:** 35 minutes per reel.

**TAPE MOUNTING:** On 4 inch diameter hub with single 14 inch diameter flange attached for safe and convenient handling of valuable program material. Design of driving spindles allows reels to be placed on or removed from recorder quickly and conveniently. Hub design permits rapid tape threading.

**CONTROLS:** Controls are provided for the following functions: Start, (which is normal playback), Stop, Rewind and Fast Forward for rapidly moving to a selection within the tape roll. All controls are relay operated through pushbuttons, which makes possible remote control by the use of an auxiliary pushbutton panel.

**CONSTRUCTION:** Of highest quality throughout with all components completely interchangeable. All critical parts (i.e. Capstan, Idlers, Etc.) precision machined to close tolerances. Careful design and construction have resulted in an exceedingly quiet running unit. Rating and selection of all components have been based on best broadcast practice with continuity of service given first consideration.



The *Ampex* Magnetic Tape Recorder features the use of  
Minnesota Mining Scotch Tape which has proven the most successful  
product available throughout ABC's exhaustive tests.

EXCLUSIVE *Ampex* DISTRIBUTORS

*EAST OF THE ROCKIES:*

**AUDIO & VIDEO PRODUCTS CORP.**

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*WEST OF THE ROCKIES:*

**BING CROSBY ENTERPRISES, INC.**

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