

The

SPARTAN

VOL. IV • NO. 6

JULY, 1975

New Era For A.M. As F.C.C. Relaxes Decade-Old Rules

IN UNUSUALLY SWIFT ACTION THE F.C.C. ANNOUNCED RELAXATION OF RULES WHICH IN 1964 RESTRICTED BUILDING AND DEVELOPMENT OF A.M. STATIONS IN FAVOR OF F.M.

THERE ARE THREE MAJOR AREAS WHICH OPEN THE DOOR TO A.M. GROWTH AND PROGRESS: (1) CREATION OF A 2.5 kW POWER LEVEL CLASSIFICATION, (2) RELAXATION OF THE 'SUBURBAN RULE' WHICH WILL INCREASE THE POTENTIAL NUMBER OF, AND POWER OF, STATIONS WHICH SERVE BOTH SUBURBAN PRIMARY AND URBAN SECONDARY AUDIENCES, AND (3) NIGHTTIME COVERAGE, POWER INCREASE, AND FREQUENCY CHANGE APPLICATIONS WILL BE SIMPLER TO FILE AND WILL NEED MEET FEWER QUALIFICATIONS FOR APPROVAL. INTERFERENCE RULES AND DETERMINATIONS REMAIN UNCHANGED.

ELSEWHERE IN THIS ISSUE THE SPARTAN COMMENTS ON POSSIBLE EFFECTS FOR A.M. STATIONS OF THESE CHANGES, OUR MODEL 703B 3 kW A.M. TRANSMITTER WHICH WILL PROVE HIGHLY USEFUL TO THOSE A.M.'s WHICH WILL BE MOVING UP TO THE 2.5 kW LEVEL, THE STORY OF TWO 703B's NOW IN SERVICE IN THE U.S., AND OTHER MATTERS. WE INVITE YOUR CLOSE READING OF THE JUNE 30th BROADCASTING MAGAZINE CONDENSATION OF THE RULE CHANGES FOR MORE DETAILS.

SPARTA, ALONG WITH N.A.B., THE TRADE PUBLICATIONS, CONSULTING ENGINEERS, STATE BROADCAST ASSOCIATIONS AND NEARLY ALL A.M. BROADCASTERS, FEELS THE RELAXATION OF THE A.M. RULES IS LONG OVERDUE. AND WE ARE HAPPY TO AGAIN BE IN THE BROADCAST EQUIPMENT LEAD WITH THE MODEL 703B AS THE TIME-TESTED 2.5 kW ANSWER TO THE POWER CLASSIFICATION NOW ESTABLISHED.

Model 703B Is Ready For New F.C.C. Power Classification: Only 2.5 kW In Production Now

The ancestor of the pictured 703B was the Model FB3, designed and built for the export market as a 2-3 kW AM back in 1967. Several countries of the world allow 2, 2.5, and 3 kW power levels, so the various models (FB3, 3A, 3B, and then Model 703) have seen service worldwide at those operating outputs.

The FB3B became the Sparta Model 703 late in 1973 (Spartan, Vol. I, No. 5, Nov-Dec 1972: "First of the Line"; Ed) when a change to solid state oscillator began its modernization. The 703A and 703B versions followed quickly, and the present model is solid state up to the four 4-1000A finals.

The 703B is a self-contained plate modulated unit 6'3" high, 34 inches wide, 25.5 inches deep, weighing 1,500 pounds. Like other AM transmitters in the Sparta line it is designed for 0-45°C use up to 7,500 feet without modification. Input for 100% modulation is 10,200W 208-240VAC 3-phase, 50/60 Hz. It shares the popular overload memory "Tally Light" system with other Sparta transmitters.

A few other specs illustrate the adherence of the 703B to the Sparta dependability philosophy: Frequency stability ± 5 Hz; Response ± 1.5 dB; 3.0% maximum distortion; less than 3% carrier shift.

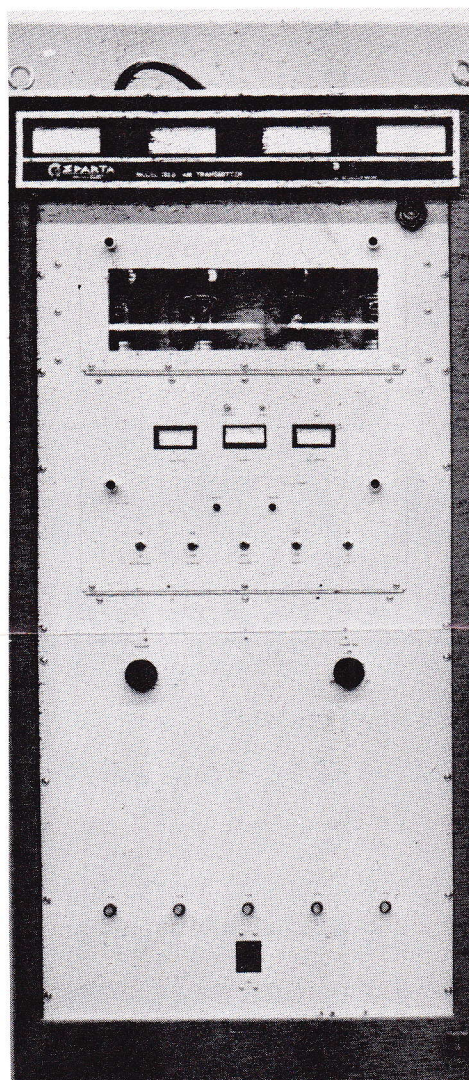
FCC type acceptance for operation of the Model 703B is being applied for based on use of the 703B in the KMWX Model 705D system [this issue; Ed], type acceptance is expected to encounter no delay of significance.

(continued on page 4)

Postponed Again

Transient IM will be the subject of Dave Evans' article in the next issue of 'The Spartan'. It was planned for this issue, but gave way to the FCC announcement about AM rules changes.

A previous IM article appeared in two parts in Volume III, Numbers 5 and 6.



SPARTA MODEL 703B 3 kW AM Transmitter. Apparently the only U.S.-made unit in current production which will meet FCC type acceptance for the new 2.5 kW power classification.
—Sparta Photo

Xmtr Division Ready For All A.M. Requests

by Paul Gregg, *Manager*
Transmitter Products Division

At this writing the formal FCC document liberalizing AM allocation rules is just arriving at the many consultants' offices around the country. Since the advance press notices of the impending action came out there has been an increasing interest from many AM broadcasters. Several consultants have reported that they are already in the midst of studies for their clients.

It is difficult to estimate just what effect the new rules will have on AM broadcasting, other than the fact that it should all be good. There is no yardstick that says, for instance, that all 1 kW day-timers can go to 2.5 kW; each case has to meet existing interference standards.

Of interest to Sparta is the new 2.5 kW power classification; a transmitter power level (703B) that has been in the Sparta line for several years. There have been cases in the past where a power increase to 5 kW would have required a second tower, but to 2.5 kW only a single stick. This new power step should be applicable to many facilities.

In speaking to its export customers over the years Sparta has said that the 2,500 Watt 703B "is the most attractive in terms of resultant coverage and investment". It is satisfying to know that now this statement can be applied here in our own part of the world.

a little of
Everything



"The difficult we do immediately . . ." We at Sparta pride ourselves on rapid response to changing requirements. In every department our people are constantly ready to do the unusual, the very difficult, and the nearly-impossible for today's harried broadcaster. A customized equipment order, a super rush parts replacement, or 'extra' edition of this newsletter, can be counted on to be speedily, thoroughly, and happily done on time.

The rest of the title saying above . . . "the impossible takes a little longer" . . . came to mind when Spartan editors L.K. "Dusty" Rhodes and Jay Cooke had to completely redo the already-written July issue. The news of the FCC's AM rules change caught us all by surprise, and required that they frantically research, rewrite, and rush this special edition out ASAP. That's why the July issue is a bit late; our hats are off to the editors and printer again for providing timely information to you, the reader.

BILL OVERHAUSER
President

"Greatest Transmitter We've Ever Had"

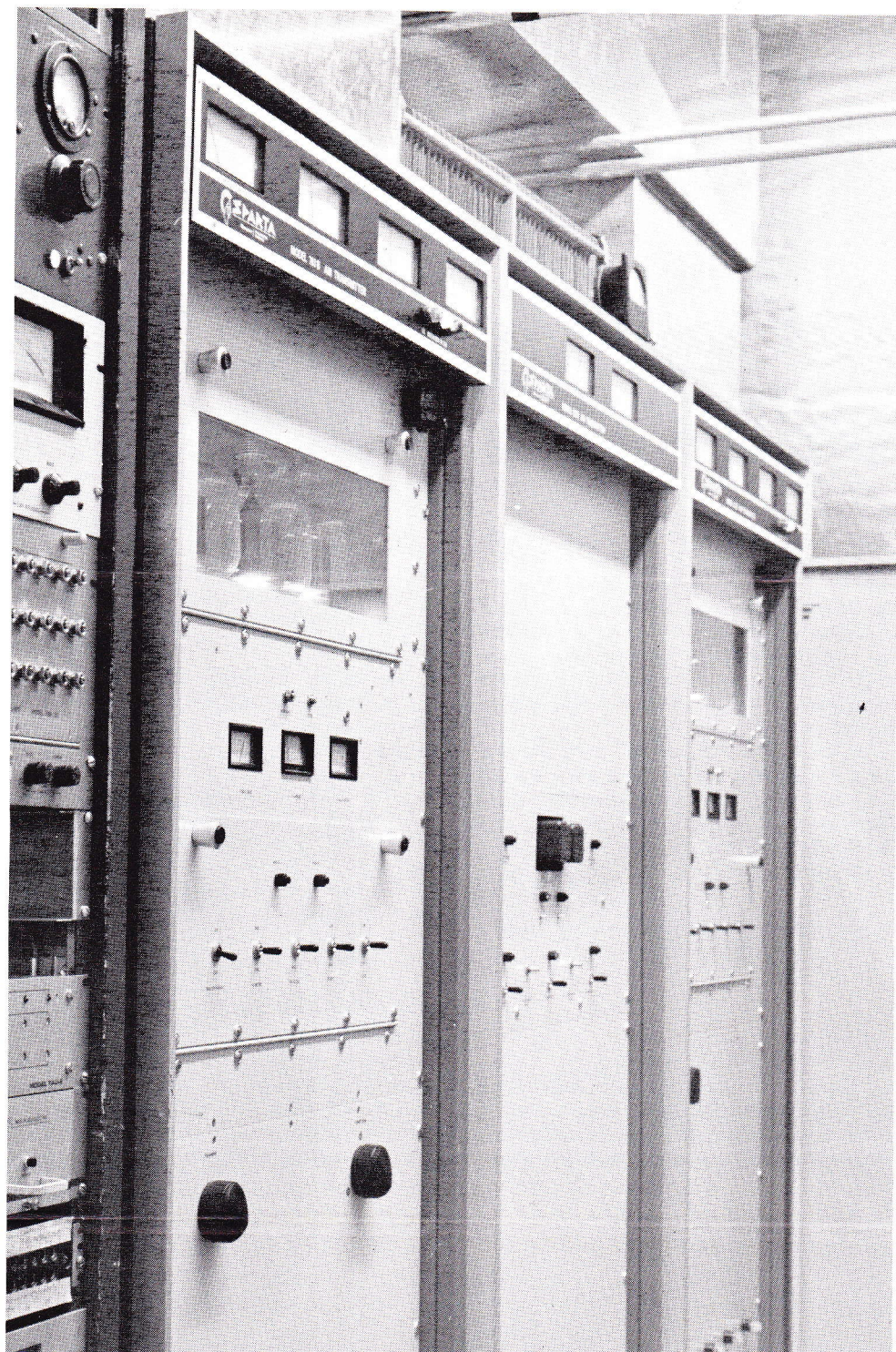
... said Mel Burrill, CE of KMWX and KFFM-FM in Yakima, WA. We called Mel to see how the Sparta Model 705D 5 kW Dual AM Transmitter was doing two years after it went on the air (August 1st 1973).

Mel, during planning of the all-new KMWX/KFFM operation in 1973, determined that they needed a dual-redundant system for central Washington's only full-time 5 kW AMer. About the cost effectiveness of the move, Mel explained, "We considered using our 20-year-old 5 kW as standby, but I knew that if I let it sit a week I'd never get it going again in time to really do a standby job. That's nearly always the case when you use a replaced transmitter as a standby; it's not good enough to do the job, or why would you have replaced it? A 5 kW main with a 1 kW standby gives too great a power difference apparent to the listener, besides the same reliability problem if you have a used 1 kW. A new 5 kW with a new 1 kW standby solves the reliability problem, but not listenership problem, and for just a bit more money the 5 kW dual-redundant system works far better than anything else."

The Sparta 703B was the only reliable available unit which could form a dual 5 kW system, with the unique Sparta low loss, wideband ferrite combiner readily adaptable to the design. Thus was born the KMWX Sparta Model 705D 5 kW Dual AM Transmitter ... to this day the only 2.5 kW AM transmitters operating in the U.S.

We asked Mel further about general operational efficiency of the 705D, and he happily outlined his experiences over the past 24 months. He has replaced only two of the eight 4-1000A tubes in that time; all other six are the originals with which the transmitter was tested and proofed at the factory before shipping. The crystal oscillator, undergoing Yakima's below zero-to-107° temperature extremes (no extra heat and no air conditioning in the building; temperatures inside have reached 110° without effecting operation) shows a net change of -4 cycle deviation after being completely untouched for a year-and-a-half. No audience reaction has ever been experienced when a single 703B was transmitting, and the other down for maintenance.

Mel performs maintenance at his leisure during the day, and the operators with off-air modulation monitor cannot detect dropoff. Loss of an RF drive transistor at one time was not noticeable to the operator until the 3-hour reading. At other times an audio transistor loss caused no discernible distortion, and once a base meter loss



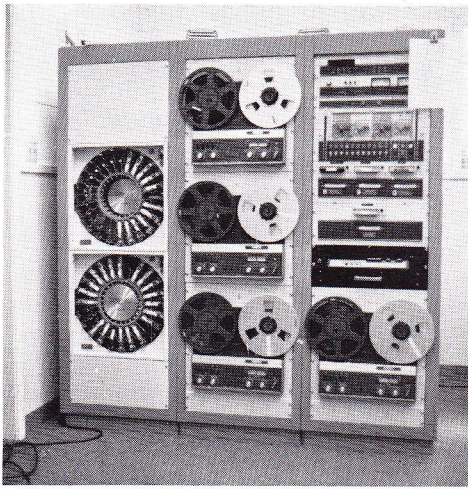
SPARTA MODEL 705D 5 kW Dual AM at KMWX, Yakima, WA. Two Model 703B Transmitters operating at 2.5 kW each into the Sparta ferrite combiner produce dual redundant 5 kW signal. Three dB signal loss when one transmitter is down for maintenance is undetectable. The only 2.5 kW AM transmitters operating in the U.S. —Art Colony Photo

due to lightning strike on Saturday was not discovered until the following Monday when Mel saw the smokey meter face! Overall, the only outages in the past 1½ years have been from remote line loss or fluctuation in line voltage.

As Mel put it, "If I were in the market for a 2.5 kW AM Transmitter I would buy the 703B as currently constructed." Some changes were made by Mel to the transmitters during the first 6 months of operation; the 703B had never before been com-

bined for a 5 kW output. The changes Mel made have all been carried into 703B production models, whether they are being used in a dual system, or alone.

"Besides everything else good I can say about the 703B," Mel concluded, "I can say this about the 5 kW dual idea: even very UNRELIABLE transmitters would work well in such a system. With our few problems in the first six months of operation, we did not lose ANY air time because of individual transmitter problems."



COVER STORY ... look for this Spartamation system in color on the cover of *Broadcast Engineering's* July issue! The editorial emphasis of the issue is "Automation", and editor Ron Merrell selected the Dennis Carr photo of KBEE, Modesto, CA Spartamated control room and personnel to grace the issue. Pictured above is the KBEE-FM system; the *Broadcast Engineering* cover also shows the KBEE AM Spartamation system!

In the August "Facilities" issue look for another Sparta equipment showpiece on the cover, with an article inside by Dick Thompson, director of engineering for McClatchy Broadcasting Corporation, in Sacramento. —Sparta Photo

Published Monthly By

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New Faces

The following appointments have been announced by Bill Overhauser, Sparta president.



Kneedler

Bill Kneedler, 32, joined the Sparta team mid-June as Manufacturing Manager. Single, he took his BA in business administration from Citrus College, and has a wide and varied background in general administration and corporate functions, engineering, material and production control, production operations and marketing. He served as Manufacturing Superintendent at J.B. Lansing Sound in Los Angeles.

He holds a California General Contractor's license and lists his hobbies as woodworking, race car building and architecture.

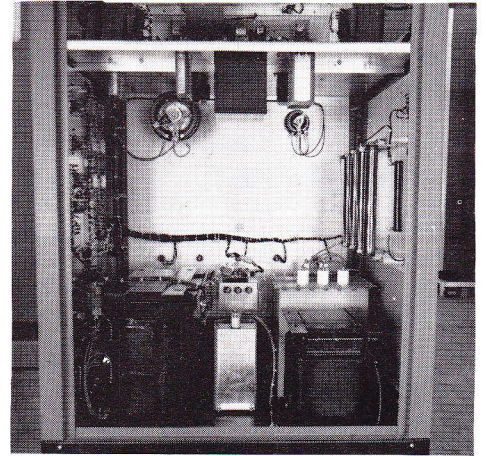
Ron Retzloff, 30, became associated with Sparta early in June as Credit and Collections Supervisor. He is a graduate of Shasta Junior College, Redding, where he majored in business administration. His experience includes credit management, general managership, and sales management in the appliance and electronics industries. Flying, hunting and fishing are his hobbies.



Retzloff

Model 703B

(continued from page 2)



MODEL 703B HV section. Similar to other Sparta AM transmitters in accessibility, good roomy interior for ease of maintenance, uncluttered design. This photo of recent model provided to New Zealand Broadcasting. —Sparta Photo



Stella Campbell (L) with return/rebuild A20 she built over 10 years ago! Mary Ring helps move it to assembly area. —Sparta Photo

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